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Diablo Canyon NPP is California's Most Valuable Carbon-Free Energy Resource

Considering the desire to de-carbonize energy production, it makes no sense whatsoever to remove Diablo Canyon, which serves as the largest and most efficient carbon-free power plant in the state, from service prematurely. In reality, the plant can reliably and safely continue operation for decades to come. In practice, we know that when nuclear power plants are removed from grids, fossil-fueled plants make up the majority of the replacement power regardless of intent. [https://www.forbes.com/sites/jamesconca/2017/10/10/why-arent-renewables-decreasing-germanys-carbon-emissions/#134fe36668e1] Nuclear power plants have proven over multiple decades of operation in numerous states and nations all over the world to be the safest and most efficient carbon free sources of reliable electricity production available. [https://www.thelancet.com/article/S0140-6736(07)61253-7/abstract; https://pubs.giss.nasa.gov/abs/kh05000e.html] The model illustrated by France, Sweden, and Ontario Hydro, for example, provide ample examples how de-carbonization of the energy sector is possible. France has one of the lowest carbon emission rates in the EU due to its decade's long commitment to nuclear power. Sweden's low carbon emission rate per capita is less than one quarter that of the US and based on about 80% of electricity production from nuclear and hydroelectric power. Similarly, Ontario Hydro, relies on ~ 80% nuclear (55%) and hydro (25%) electricity production, and has a carbon emission rate per capita nearly 1/10th that of the US. Each of these regions' grids feature a combination of energy sources including renewables such as wind, solar, and hydro. However, the corner stone of each is a sizable fraction of electricity generated by nuclear power. Germany's Energiewende provides ample proof that attempts without nuclear power are fruitless and irresponsible from both a financial and ecological standpoint. Even within the US "The states with lower carbon intensity of their energy supply tend to be those states with relatively substantial non-carbon electricity generation such as nuclear or hydropower" [https://www.eia.gov/environment/emissions/state/analysis/pdf/stateanalysis.pdf]. Illinois, Pennsylvania, and Texas all increased non-carbon-producing energy from 2000 to 2015 by either expanding or keeping nuclear energy production stable while introducing renewables. In contrast California's non-carbon electricity generation fell over the same period even though there was a commitment to introduction of renewables [https://www.eia.gov/environment/emissions/state/analysis/]. The conclusion of all this is rather clear, instead of removing nuclear power in California, we should be increasing its use. Building 4 - 5 new plants would allow us to remove fossil fueled power plants and almost completely de-carbonize the grid in California and it could be achieved in perhaps as short as a decade. Additionally, one of the other largest contributors to carbon emissions in California is the transportation sector. Coupling nuclear electricity generation to a transition to electric vehicle use and California could be the model to the world for virtually eliminating carbon emissions entirely. We must reverse the decision to prematurely close Diablo Canyon NPP and, in fact, must embrace the expansion of nuclear power to have any realistic hope of achieving de-carbonization.